Substitute Form PTO-1449 (Modified)

U.S. Department of Commerce Patent and Trademark Office Attorney's Docket No. 06618-607002

Application No. 10/010,725

0 4 2004

hformation Disclosure Statement by Applicant (Use several sheets if necessary) Applicant

Wely B. Floriano, Nagarajan Vaidehi, William A.

Goddard, III

Filing Date

Group Art Unit 1645

1.98(b)

November 30, 2001

Examiner Initial	Desig . ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
PW	. AA	5,680,319	10/21/97	Rose et al.	364	496	
PW	AB	5,705,335	1/6/98	Hendry	435	6	
PW	AC	5,873,052	2/16/99	Sharaf	702	20	
PW	AD	5,854,992	12/29/98	Shakhnovich et al.	702	27	
PW	AE	5,940,307	8/17/99	Fischbarg et al.	364	496	

Foreign Patent Documents or Published Foreign Patent Applications							
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes No.
•	AF						

→	Other D	ocuments (include Author, Title, Date, and Place of Publication)
Examiner Desig.		
Initial ID		Document
PW AG		D'Aquino, J. et al., "The Magnitude of the Backbone Conformational Entropy Change in Protein Folding," Proteins: Structure, Function and Genetics (1996) 25:143-156
	AH	Buck, L. et al., "A Novel Multigene Family May Encode Odorant Receptors: A Molecular Basis for Odor Recognition," Cell (1991) 65:175-187
	AI	Burkhard, P. et al., "An Example of a Protein Ligand Found by Database Mining: Description of the Docking Method and Its Verification by a 2.3 Å X-ray Structure of a Thrombin-Ligand Complex," J. Mol. Biol. (1998) 277:449-466
	AJ	Connolly, M.L., "Solvent-Accessible Surfaces of Proteins and nucleic Acids," Science (1983) 221(4612):709-713
	AK	Ding, H. Q. et al., "Atomic Level Simulations on a Million Particles: The Cell Multipole Method for Coulomb and London Nonbond Interactions", J. Chem. Phys. (1992) 97(6):4309-4315
	AL	Datta, D. et al, "Mechanism for Antibody Catalysis of the Oxidation of Water by Singlet Dioxygen" PNAS (2002) 99(5):2636-2641
	AM	Ding, H.Q. et al. "The Reduced Cell Multipole Method for Coulomb Interactions in Periodic Systems with Million-Atom Unit Cells", Chem. Phys. Lett. (1992) 196 (1,2):6-10
	AN	Dombi, G. et al., "Analysis of Protein Transmembrane Helical Regions by a Neural Network", Protein Science (1994) 3:557-566
	AO	Donnelly, D. "Modeling alpha-helical Transmembrane Domains", <u>Biochem. Society Transactions</u> (1993) 21:36-39
Ewing, T.A. et al., "Critical Evaluation of Search A		Ewing, T.A. et al., "Critical Evaluation of Search Algorithms for Automated Molecular Docking and Database Screening", J. Comput. Chem. (1997) 18:1175-1189
	AQ	Floriano, W. B. et al., "Molecular mechanisms underlying differential odor responses of a mouse olfactory receptor", PNAS (2002) 97(20):10712-10716
	AR /	Gasteiger, J. et al., "Iterative Partial Equalization of Orbital Electronegativity – a Rapid Access to Atomic Charges", <u>Tetrahedron</u> (1980) 36:3219-3288
Evaminar Sian		Data Considered

Examiner Signature Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Attorney's Docket No. Application No. Bulstitore Form PTO-1449 (Modified) U.S. Department of Commerce Patent and Trademark Office 06618-607002 10/010,725 Applicant প্দিformation Disclosure Statement 0 4 2004 Wely B. Floriano, Nagarajan Vaidehi, William A. by Applicant (Use several sheets if necessary) Goddard, III Filing Date Group Art Unit .98(b)) 1645 November 30, 2001

ACE		November 30, 2001 1645				
	Other D	ocuments (include Author, Title, Date, and Place of Publication)				
Examiner Desig. Initial ID Document						
PW	AS	Ghosh, A. et al., "Generalized born model based on a surface integral formulation", <u>J. Phys. Chem</u> (1998) 102:10983-10990				
i	AT	Guner, O., Pharmacophore - Perception, Development and Use in Drug Design (2000)				
	AU	Huang, E. et al., "Ab Initio Fold Prediction of Small Helical Proteins Using Distance Geometry and Knowledge-Based Scoring Functions", Journal of Molecular Biology (1999) 290:267-281				
	AV Jain, A., et al., "A fast recursive algorithm for molecular-dynamics simulation", <u>J.</u> (1993) 106:258-268					
	AW	Juretic, D. et al., "Conformational Preference Functions for Predicting Helices in Membrane Proteins", <u>Biopolymers</u> (1993) 33:255-273				
AX Kiyama, R. et al., "Homology Modeling of Gelatinase Catalytic Domains and Dock of Novel Sulfonamide Inhibitors" Journal of Medicinal Chemistry (1999) 42:1723-						
	AY	Krautwurst, D. et al., "Identification of Ligands for Olfactory Receptors by Functional Expression of a Receptor Library", Cell (1998) 95:917-926				
	AZ	Kuntz, I. et al., "A Geometric Approach to Macromolecule-Ligand Interactions," <u>J. Mol. Biol.</u> (1982) 161:269-288				
	AAA	Lim, K. et al., "Molecular Dynamics for Very Large Systems on Massively Parallel Computers: The MPSim Program", J. Comput. Chem. (1997) 18:501-521				
ABB Malnic, B. et al., "Combina		Malnic, B. et al., "Combinatorial Receptor Codes for Odors", Cell (1999) 96: 713-723				
	ACC	Mathiowetz, A.M. et al., "Protein Simulations using Techniques Suitable for Very Large Systems: the Cell Multipole Method for Nonbond Interactions and the Newton-Euler Inverse Mass Operator Method for Internal Coordinate Dynamics", Proteins: Structure , <a -="" a="" chem.<="" dreiding="" field="" for="" force="" generic="" href="https://example.com/Proteins:</td></tr><tr><td colspan=2></td><td>Mayo, S. L. et al. " j.="" molecular="" phys.="" simulations",="" td="">				
	AEE	McCammon, J. and Harvey, S.C., <u>Dynamics of Proteins and Nucleic Acids</u> (1987)				
	AFF	McMartin, C. et al., "QXP: Powerful, Rapid Computer Algorithms for Structure-Based Drug Design", (1997) 11:333-344				
	AGG	Mombaerts, P., "Seven-Transmembrane Proteins as Odorant and Chemosensory Receptors", Science (1999) 286:707-711				
	АНН	Morris, G.M. et al., "Automated Docking Using a Lamarckian Genetic Algorithm and an Empirical Binding Free Energy Function" J. Comp. Chem. (1998) 19(14):1639-1662				
	AII	Palczewski, K., et al., "Crystal Structure of Rhodopsin: A G Protein-Coupled Receptor," Science (2000) 289:739-745				
.	AJJ	Pilpel, Y. et al. "The variable and conserved interfaces of modeled olfactory receptor proteins" Prot. Sci. (1999) 8:969-977				
	AKK	Poincelot, R., et al., "Determination of the Chromophoric Binding Site in Native Bovine Rhodopsin," Biochemistry (1970) 9(8):1809-1816				
	ALL	Rappé, A.K. et al., "Charge Equilibration for Molecular Dynamics Simulations", <u>J. Phys. Chem.</u> (1991) 95:3358 –3363				
	AMM Reshetnikova, L. et al., "Crystal Structures of Phenylalanyl-tRNA Synthetase Complexed Phenylalanine and a Phenylalanyl-adenylate Analogue", <u>J. Mol. Biol.</u> (1999) 287:555-56					

	·
Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw next communication to applicant.	w line through citation if not in conformance and not considered. Include copy of this form with
ν	Substitute Disclosure Form (PTO-1449)

(Modified)

U.S. Department of Commerce Patent and Trademark Office

(Modified)

Attorney's Docket No. 06618-607002

Application No. 10/010,725

Applicant Wely B. Floriano, Nagarajan Vaidehi, William A. Goddard, III

Filing Date Group Art Unit November 30, 2001

Section 2015

Application No. 10/010,725

Application No. 10/010,725

Applicant Wely B. Floriano, Nagarajan Vaidehi, William A. Goddard, III

Filing Date Group Art Unit November 30, 2001

ACEU SE	• • • • • • • • • • • • • • • • • • • •	November 30, 2001 1645	
	Other D	ocuments (include Author, Title, Date, and Place of Publication)	
Examiner Initial	Desig. ID Document		
PW ANN		Sachdeva, A. et al., "Nasal Mucociliary Clearance & Mucus pH in patients with Diabetes Mellitus," Indian J. Med. Res. (1993) 98:265-268	
	AOO	Sansom, M. et al., "Modeling Transmembrane Helix Bundles by Restrained MD Simulations", Chapter 14 (pp. 325-347), In Webster, D., Protein Structure Prediction: Methods and Protocols (2000)	
	APP	Schertler, G.F.X., "Structure of rhodopsin", Eye (1998) 12:504-510	
	AQQ	Sharma N., et al., "Efficient introduction of aryl bromide functionality into proteins in vivo", FEBS Lett. (2000) 467:37-40	
	ARR	Shoichet B.K. et al., "Ligand Solvation in Molecular Docking", Proteins: Structure, Function and Genetics (1999) 34:4-16	
	ASS	Schoichet, B.K. et al., "Structure-Based Discovery of Inhibitors of Thymidylate Synthase," Science (1993) 259:1445-1450	
	ATT	Singer, M. et al., "Molecular Modeling of Ligand-Receptor Interactions in the OR5 Olfactory Receptor", (1994) Neuroreport 5:1297-1300	
2	AUU	Singer, M.S., "Analysis of the Molecular Basis for Octanal Interactions in the Expressed Rat 17 Olfactory Receptor," Chem. Senses (2000) 25:155-165	
	AVV	Singer, M.S. et al. "Positive Selection Moments Identify Potential Functional Residues in Human Olfactory Receptors", Receptors and Channels (1996) 4:141-147	
AWW Solvation Energies from Ab Initio Qua		Tannor, D. et al. "Accurate First Principles Calculation of Molecular Charge Distributions and Solvation Energies from Ab Initio Quantum Mechanics and Continuum Dielectric Theory", J. Am. Chem. Soc. (1994) 116:11875-11882	
	AXX	Uechi et al., "An Automated Structure Prediction System by Lattice Model for Seven-Helix-Type Membrane Proteins", Genome Informatics (1999) 10:239-240	
	AYY	Vaidehi, N. et al., "Prediction of Structure and Function of G Protein-Coupled Receptors", PNAS (2002) 99:12622-12627	
	AZZ	Vaidehi, N. et al. "Constant Temperature Constrained Molecular Dynamics: The Newton-Euler Inverse Mass Operator Method", J. Phys. Chem. (1996) 100:10508-10517	
	AAAA	Vriend, G., "WHAT IF: a molecular modeling and drug design program", J. Mol. Graph. (1990) 8:52-56	
	ABBB	Williams, R.L., et al., "Empirical Solvation Models in the Context of Conformational Energy Searches: Application to Bovine Pancreatic Trypsin Inhibitor," Proteins: Structure, Function, and Genetics (1992) 14:110-119	
•	ACCC	Zou, X., et al., "Inclusion of Solvation in Ligand Binding Free Energy Calculations Using the Generalized-Born Model, " J. Am. Chem. Soc. (1999) 121:8033-8043	
	ADDD	Floriano, W.B. et al., "Design of Lead Antagonists for Transcriptional Regulation of Glucocorticoid Responsive Elements," U.S. Provisional Application No. 60/233,294, filed 09/15/00	

50107754.doc

/	·		
Examiner Signature) 	Date Considered	105
EXAMINER: Initials citation next communication to app	n considered. Draw line through citation if no licant.	t in conformance and not considered	. Include copy of this form with
V		Subs	titute Disclosure Form (PTO-1449)